

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

30. (Currently Amended) A lead-acid cell for a battery comprising a container, at least one positive plate and at least one ~~positive~~ negative plate disposed within the container, a separator disposed within the container and separating the at least one positive plate and the at least one negative plate, the positive plate comprising a grid supporting structure formed by book mold gravity casting and having a layer of active material coupled thereto, the grid supporting structure comprising:

a lead-based alloy comprising lead;

tin in the range of about 0.8% to about 1.1%;

calcium in an amount such that the ratio of tin to calcium is greater than about 12:1;

silver in the range of greater than 0 to about ~~0.02%~~ 0.015%;

wherein the percentages of tin, calcium, and silver in the grid supporting structure formed by book mold gravity casting are based upon the total weight of the lead-based alloy.

31. (Previously Added) The cell as defined in claim 30, wherein the ratio of tin to calcium is not less than 15:1.

32. (Previously Added) The cell as defined in claim 30, wherein the ratio of tin to calcium is not less than 20:1.

33. (Currently Amended) The cell as defined in claim 30, wherein the silver content of the alloy is in the range of about ~~0.005%~~ 0.0005% to about ~~0.017%~~ 0.015%.

34. (Currently Amended) The cell as defined in claim 31, wherein the silver content of the alloy is in the range of about ~~0.005%~~ 0.0005% to about ~~0.017%~~ 0.015%.

35. (Currently Amended) The cell as defined in claim 32, wherein the silver content of the alloy is in the range of about ~~0.005%~~ 0.0005% to about ~~0.017%~~ 0.015%.

36. (Previously Added) The cell as defined in claim 30, wherein the calcium is present in an amount of about 0.03% to about 0.055% and the ratio of tin to calcium is not less than 15:1.

37. (Currently Amended) The cell as defined in claim 36, wherein silver is present in a range of about 0.005% 0.0005% to about 0.017% 0.015%.

38. (Previously Added) The cell as defined in claim 30, wherein calcium is present in an amount of about 0.03% to about 0.055% and the ratio of tin to calcium is not less than 20:1.

39. (Previously Added) The cell as defined in claim 38, wherein silver is present in a range of about 0.008% to about 0.015%.

40. (Previously Added) The cell as defined in claim 30, further including from about 0.008% to about 0.03% aluminum.

41. (Previously Added) The cell as defined in claim 30, contained in a maintenance free battery.

42. (Previously Added) The cell as defined in claim 30, contained in a sealed battery.

43. (Previously Added) The cell as defined in claim 30, wherein the container, positive and negative plates and the separator comprise an automotive battery.

44. (Currently Amended) A grid supporting structure for use in a lead-acid battery having at least one positive plate and at least one negative plate disposed within a container, a separator disposed within the container and separating the at least one positive plate and the at least one negative plate, the grid supporting structure formed by book mold gravity casting and having a layer of active material pasted thereto, the grid supporting structure comprising:
a lead-based alloy consisting essentially of lead;
tin in the range of about 0.8% to about 1.1%;

calcium in an amount such that the ratio of tin to calcium is greater than about 12:1;

silver in the range of greater than 0 to ~~about 0.02%~~ less than 0.015%;

wherein the percentages in the grid supporting structure formed by book mold gravity casting are based upon the total weight of the lead-based alloy.

45. (Previously Added) The grid supporting structure as defined in claim 44, wherein the ratio of tin to calcium is not less than 15:1.

46. (Previously Added) The grid supporting structure as defined in claim 44, wherein the ratio of tin to calcium is not less than 20:1.

47. (Currently Amended) The grid supporting structure as defined in claim 44, wherein the silver content of the alloy is in the range of about ~~0.005%~~ 0% to about ~~0.017%~~ 0.0124%.

48. (Currently Amended) The grid supporting structure as defined in claim 45, wherein the silver content of the alloy is in the range of about ~~0.005%~~ 0% to about ~~0.017%~~ 0.0124%.

49. (Currently Amended) The grid supporting structure as defined in claim 46, wherein the silver content of the alloy is in the range of about ~~0.005%~~ 0% to about ~~0.017%~~ 0.015%.

50. (Previously Added) The grid supporting structure as defined in claim 44, wherein calcium is present in an amount of about 0.03% to about 0.055% and the ratio of tin to calcium is not less than 15:1.

51. (Currently Amended) The grid supporting structure as defined in claim 50, wherein silver is present in a range of about ~~0.005%~~ 0% to about ~~0.017%~~ 0.015%.

52. (Previously Added) The grid supporting structure as defined in claim 50, wherein calcium is present in an amount of about 0.03% to about 0.055% and the ratio of tin to calcium is not less than 20:1.

53. (Currently Amended) The grid supporting structure as defined in claim 52, wherein silver is present in a range of about 0.008% to ~~about~~ 0.015%.

54. (Previously Added) The grid supporting structure as defined in claim 44, further including from about 0.008% to about 0.03% aluminum.

55. (Previously Amended) The grid supporting structure as defined in claim 44, contained in a maintenance free battery.

56. (Previously Added) The grid supporting structure as defined in claim 44, contained in a sealed battery.

57. (Currently Amended) A plate formed by book mold gravity casting for use in a battery comprising a lead-based alloy consisting essentially of:

tin in an amount of about 0.8% to about 1.1%;

calcium in an amount such that the ratio of tin to calcium is greater than about 12:1;

silver in an amount of greater than 0 to about 0.015%;

wherein the percentages of tin, calcium, and silver in the plate formed by book mold gravity casting are based on the total weight of the lead based alloy.

58. (Currently Amended) The positive plate of Claim 57 wherein the silver is in an amount of about ~~0.005%~~ 0.0005% to about ~~0.02%~~ 0.012%.

59. (Currently Amended) The positive plate of Claim 58 wherein the silver is in an amount of about ~~0.005%~~ 0.0005% to about ~~0.017%~~ 0.015%.

60. (Currently Amended) The positive plate of Claim 59 wherein the silver is in an amount of about ~~0.005%~~ to ~~0.0124%~~ 0.015%.

61. (Currently Amended) The positive plate of Claim 58 wherein the silver is in an amount of about ~~0.015~~ 0.005% to ~~0.02%~~ 0.015%.

62. (Currently Amended) The plate of Claim 57 wherein the silver is in an amount of greater than ~~about~~ 0 to ~~0.015%~~ less than 0.015%.

63. (Previously Amended) The plate of Claim 58 wherein the calcium is in an amount of about 0.03% to 0.055%.

64. (Previously Added) The plate of Claim 58 wherein the ratio of tin to calcium is not less than 20:1.

65. (Previously Added) The plate of claim 58 wherein calcium is present in an amount of about 0.03% to about 0.055% and the ratio of tin to calcium is not less than 15:1.

66. (Previously Added) The plate of claim 58 wherein calcium is present in an amount of about 0.03% to about 0.055% and the ratio of tin to calcium is not less than 20:1.

67. (Previously Added) The plat of Claim 58 further comprising about 0.008% to 0.03% aluminum.

68. (Previously Added) The plate of claim 58 wherein the plate is contained in a maintenance free battery.

69. (Previously Added) The plate of Claim 58 wherein the plate is contained in a sealed battery.

70. (Previously Amended) The plate of Claim 59 wherein the active material is a paste.

71. (Currently Amended) The lead-acid cell of Claim 30 wherein the silver is in an amount of about ~~0.005%~~ 0% to less than 0.015%.
